National Institute of Environmental Health Sciences

Distribution of natural and anthropogenic radionuclides in heavy rainfall areas in Jordan

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Abstract:

Soil is the main reservoir of both natural and artificial radionuclides, which are transported to the human body through the food chain. Thus, assessment of the level of radioactivity in soil is of crucial importance. Artificial radionuclide concentrations in soil depend heavily on rainfall and weather conditions. In this study, the soil of the Ras Muneef area, which has the highest rainfall in Jordan, was investigated for its natural and anthropogenic radioactive content. The area was divided into four sectors and in each sector three locations were investigated depending on the land use: undisturbed, cultivated or residential. The depth profile of Cs-137 was investigated and found to depend on the land use. In the undisturbed soils, two types of depth profiles were identified: Gaussian and exponentially decreasing. The annual effective dose was found to range from 19.4 to 72.6 Sv, which falls within the worldwide ranges.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Flooding

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Jordan

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified